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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,183	02/26/2002	Shingo Ishihara	500.41280X00	2432

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EXAMINER	
MACCHIAROLO, PETER J	
ART UNIT	**PAPER NUMBER**
2879	

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/082,183	ISHIHARA ET AL.	
	Examiner	Art Unit	
	Peter J. Macchiarolo	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/21/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application on 11/21/2005. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/21/2005 has been entered. The indicated allowability of claim 5 is withdrawn in view of the newly discovered reference to Hosokawa. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "very thin" in claims 19 and 22 is a relative term which renders the claim indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 5, 15-17, and 19-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Applicant cited Hosokawa (USPN 6538374: "Hosokawa").

Regarding claim 5, Hosokawa shows in figure 8, an organic light-emitting element comprising: an organic electroluminescent substrate (13) having at least a first electrode (22), an organic layer (24) and a second transparent electrode (16) formed on a substrate (10); a counter substrate (58); and a light extraction layer (21) and an auxiliary electrode (18) for the second transparent electrode, both provided between the organic electroluminescent substrate and the counter substrate; wherein a total thickness d of a layer ranging from a light-emitting area in the organic layer to the second transparent electrode satisfies an equation $d > \lambda/4$, where λ is a center wavelength of emitted light. The Examiner notes that Hosokawa's thickness d is the thickness of elements 24 and 16 (which is disclosed in column 10 lines 39-43 and column 14 lines 61-65, as 10nm + 50nm = 60nm) is indeed less than $\lambda/4$ (given the center wavelength of visible light is approximately 625nm).

Regarding claims 15-17, Hosokawa shows in figure 8 the auxiliary electrodes are provided between the pixels on the second transparent electrode and on the counter substrate.

Regarding claims 19 and 22, Hosokawa shows in figure 8 the second transparent electrode is formed from a very thin metal film with a high transmissivity.

Regarding claim 20, Hosokawa shows in figure 1 a light-emitting display using the organic light-emitting element recited in claim 5.

Regarding claim 21 and 23, Hosokawa discloses the organic light emitting element has pixels of different colors.

The Examiner notes that the preamble of claim 23 recite that the display is used a mobile phone. This is an intended use type preamble, since it merely recites the intended use of a display. Where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone, the preamble is generally not accorded any patentable weight. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). In this case, the preamble has been considered, however is not patentable over Hosokawa since the display can be used in a mobile phone.

Regarding claims 24 and 25, Hosokawa discloses in column 15 lines 8-37, the first electrode is a transparent electrode.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 6, 8-12, 18, and 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa in view of Eida et al (USPN 20010050532; "Eida").

Regarding claim 6, Hosokawa is silent to ribs.

However, Eida shows in figure 4, a rib (6) is provided between an organic electroluminescent substrate and a counter substrate to control a thickness of the light extraction layer and control structural integrity.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Hosokawa with the ribs of Eida to control a thickness of the light extraction layer and control structural integrity.

Regarding claim 8, Eida shows the rib is contiguous to the counter substrate, but is silent to how the rib is formed.

However, the claim limitation "being formed on the counter substrate" is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the

prior art, the subject product-by-process claim limitation has been considered, but not patentably distinct over Eida, since one skilled in the art will recognize the rib can be formed on the counter substrate before sealing the device (see MPEP 2113).

Regarding claim 9, Eida is silent to the material for the rib.

However, it would have been obvious to one having ordinary skill in the art that the time the invention was made to use a glass or optically cured resin, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin,* 125 USPQ 416. Further, one would arrive at this modification for a variety of reasons, including material availability and manufacturing and operating processes with sensitive requirements.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the optical device of Eida with the rib being formed from a glass or optically cured resin.

Regarding claim 10, Eida shows the rib is formed on a sealed portion of the organic EL substrate and the counter substrate.

Regarding claims 11 and 12, Hosokawa is silent to color filters.

However, Eida shows color filters (11) are formed on the counter substrate, which improves color purity.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Hosokawa with the color filters of Eida.

Regarding claim 18, although Hosokawa is silent to a bonding layer being provided to bring the second transparent electrode and the auxiliary electrode into ohmic contact with each other, this is an obvious configuration. One of ordinary skill in the art will appreciate this configuration is necessary for proper operation of the device, and will lower the overall power consumption.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the optical device of Hosokawa with the auxiliary electrode and second transparent electrode being bonded together to provide ohmic contact with each other to lower the overall power consumption of the device.

Regarding claim 26, Hosokawa is silent to emitting white light from the EL element while emitting colored light out of the counter substrate.

However, Eida shows this configuration with fluorescent material (9) reduces power consumption for white light and can be used in very thin applications, such as in LCD's and the like.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Hosokawa's device

emitting white light from the EL element while emitting colored light out of the counter substrate.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa.

Regarding claim 7, Hosokawa teaches that the light extraction layer thickness can be modified for any required application, but is silent to the thickness of the light extraction layer being 50 μm or more.

However, this is an obvious configuration, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, one would be motivated to construct Taniguchi's light extraction layer longer than 50 μm for a variety of reasons, such as to make certain that if the two substrates warp, there is enough clearance between the electrodes so as not to develop a short circuit.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the optical device of Hosokawa with the light extraction layer being 50 μm or more to facilitate reliable operation.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa in further view of previously cited Inohara et al (USPN 4357557; "Inohara").

Regarding claim 13, Hosokawa is silent to a moisture absorbing layer being provided on the counter substrate.

However, this is an obvious configuration as evidenced by figure 1 of Inohara. One would be motivated to such a configuration since it is well known that organic EL layers are extremely susceptible to moisture, and this will increase the overall lifetime of the device.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the optical device of Hosokawa with a moisture absorbing layer on the counter substrate to increase the overall lifetime of the device.

Regarding claim 14 Inohara shows in figures 4 and 5 that a moisture absorbing layer is provided around a portion sealing the organic EL substrate and the counter substrate.

The reason for combining and motivation are the same as for claim 13 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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pjm

JOSEPH WILLIAMS
PRIMARY EXAMINER